REMARKS

Claims 1-27 are pending in this application. Claims 1, 16, 18, 25, 26, and 27 have been amended. No new matter is added.

Claim Rejections – 35 U.S.C. § 112

The Examiner rejected original claim 1 contending that the phrase "the fabric structure" in the body of claim 1 lacked antecedent basis. Applicants intended to refer to the "broadband access network multiplexing element switch fabric" recited in claim 1's preamble The body of claim 1 now recites "the switch fabric." Applicants also have amended the phrase "a broadband access network multiplexing element switch fabric" in the preamble of claim 1 to read "a switch fabric in a broadband access network multiplexing element." Applicant considers both of these amendments to be non-substantive and unrelated to patentability, neither broadening nor narrowing the scope of the claim. No equivalents are surrendered by these amendments.

Specification

The Examiner contends that the specification fails to provide proper antecedent basis for the term "cilli code" which appears in claim 7. Applicants respectfully disagree. The term "cilli code" appears in the specification at least three times in paragraph [0022], lines 8-9, paragraph [0024], line 9, and paragraph [0025], line 6. The term cilli code is a common abbreviation used by those ordinarily skilled in the art for the common language location identification codes utilized in telecommunications systems to identify switches, points of interconnection, and other categories of telephony and communications network elements and their locations. Telcordia Technologies, Inc. maintains a national database of all such codes (see, e.g., https://codecenter.commonlanguage.com/index.asp) that may be queried by various means (see, e.g., http://www.telcodata.us/telcodata/clli).

Claim Rejections – 35 U.S.C. § 103

The Examiner contends that claims 1-27 would have been obvious to one having ordinary skill in the art at the time these inventions were made over Barker (U.S. Pat. No. 6,363,421) in view of Chisholm (U.S. Pat. No. 6,697,970). However, the Examiner acknowledges that Barker does not explicitly disclose a multiplexing element, does not disclose a multiplexing element having a switch fabric, and does not disclose gathering status

information for the switch fabric in a multiplexing element having a switch fabric. The

Examiner also acknowledges that Chisholm does not explicitly disclose a multiplexing

element having a switch fabric either. The Examiner then asserts, nonetheless, that it would

have been obvious "that the combination of the element manager server and network element

[in Chisholm] compose the fabric structure" recited in Applicants' claims, and that it would

have been obvious "to modify the maintenance of status information of the network element

[in Barker], with the maintenance of the element management server by a system manager as

disclosed by Chisolm," and that the motivation for such modification "is to maintain an

inventory of status information (Col 5 lines 55-67) [of Chisholm].[1]"

Applicants respectfully submit that the Examiner's obviousness conclusions are based

on unsupportable claims about the teachings in Barker and Chisholm and having failed to

consider the claimed inventions as a whole. 35 U.S.C. § 103(a) ("A patent may not be

obtained ... if the differences between the subject matter sought to be patented and the prior

art are such that the subject matter *as a whole* would have been obvious")(emphasis added).

The Examiner has impermissibly used the claimed inventions as a roadmap to selectively cull

individual elements of the subject matter sought to be patented from the prior art where there

would have been absolutely no motivation to do so at the time the inventions were made.

The Federal Circuit has repeatedly held that the approach to obviousness taken by the

Examiner in this case is improper. Consider for example the recitation of the law on this

point in *Crown Operations Int'l Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1376 (Fed. Cir. 2002):

> "Determination of obviousness cannot be based on the hindsight
> combination of components selectively culled from the prior art to fit
> the parameters of the patented invention." *ATD Corp. v. Lydall, Inc.*,
> 159 F.3d 534, 546 (Fed. Cir. 1998). There must be a teaching or
> suggestion within the prior art, within the nature of the problem to be
> solved, or within the general knowledge of a person of ordinary skill in
> the field of the invention, to look to particular sources, to select
> particular elements, and to combine them as combined by the inventor.
> *See Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665 (Fed. Cir. 2000); *ATD
> Corp*, 159 F.3d at 546; *Heidelberger Druckmaschinen AG v. Hantscho
> Commercial Prods., Inc.*, 21 F.3d 1068, 1072 (Fed. Cir. 1994) ("When
> the patented invention is made by combining known components to
> achieve a new system, the prior art must provide a suggestion or
> motivation to make such a combination.").

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1 Applicants presume the Examiner's reference to "Col. 5 lines 55-67" was to Chishom.

In view of this law, the Federal Circuit refused to reverse the district court's summary

judgment of no alleged obviousness because the district court properly concluded that there

was no teaching, suggestion or motivation in the prior art cited by the defendant to address

the problem faced by the inventors in the way the claimed inventions did. *Crown Operations*,

289 F.3d at 1370-71, 1378 (citing *Ruiz*, 234 F.3d at 665, 57 USQP2d at 1167; *In re Rouffet*,

149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998)). In view of this law, the

Examiner's conclusions of obviousness cannot stand.

Putting aside for the moment the error in the Examiner's assertions that "that the

combination of the element manager server and network element [in Chisholm] compose the

fabric structure" recited in Applicants' claims, in rejecting Applicants' claims the Examiner

has failed to address in any way one of the principal problems solved by Applicants –

maintaining an accurate inventory of the number of cross-connects in a broadband access

network multiplexing element (and/or the broadband access network as a whole) without

having to physically visit and log into each multiplexing element in the broadband access

network. (*See, e.g.*, paragraph [0016] of specification). Neither Barker nor Chisholm address

broadband access networks, or even multiplexing elements in a broadband access network in

particular, let alone accurately determining the number of cross-connects contained in the

switching fabric of broadband access network multiplexing elements from a remote location.

For example, virtually the entirety of Barker's disclosure is directed to a discussion of the

operation of and manner in which various software components may be configured to, in

general, manage an element in a telecommunications network. But as the Examiner

acknowledges, Barker says nothing about what the particular elements in its

telecommunications networks are, says nothing about broadband access networks or

multiplexing elements, and says nothing about systems and methods for inventorying from a

remote location a switch fabric in a multiplexing element in a broadband access network.

Indeed, the only "particular" type of network element mentioned in Barker is a

"network element 14 in a telephonic network" (see, e.g., Col. 3, line 55). The Examiner's

assertion that any element in a managed network may be considered a switch is certainly not

supported by Barker. Barker simply does not contemplate, teach or suggest that the elements

in its network are multiplexing elements or the use of its systems and methods to inventory

switching fabric in broadband access network multiplexing elements. Barker is completely silent on all of these matters, and the only particular use disclosed by Barker for its system and methods with respect to individual network elements is the remote institution of maintenance operations. (See Col. 1, lines 55-63). Instituting maintenance operations in a generic network element bears no relationship whatsoever to the inventions recited in Applicants' claims.

Nor does Chisholm address the problem solved by the Applicants or provide any motivation to combine its teachings with those of Barker to arrive at the claimed inventions. The systems and methods disclosed in Chisholm relate to the "field of network fault management" and attempt to solve the problem of "determin[ing] what alarms ... are currently active in a system" in order to "provide reliable fault management." *See* Col. 1, lines 12-13, 62-64; Col. 1, line 67 – Col. 2, line 1. Providing reliable fault management by determining active alarms for generic network elements bears no relationship whatsoever to remotely inventorying the switch fabric of broadband access network multiplexing elements as recited in Applicants' claims. The number of cross-connects and other information relating to the switch fabric is not a "fault" condition or associated in any way with alarms, traps or otherwise abnormal conditions. Rather, they are normal conditions in the multiplexing elements necessary to provide broadband access via the network. *See, e.g.,* Specification at paragraph [0016]. The Examiner's reliance on Col. 5, lines 55-67 of Chisholm does nothing to alleviate the failure of Chisholm to provide any motivation to combine its teachings with those of Barker, or to modify the teachings in Barker either. Chisholm does not mention broadband access networks or issues arising from the changing configuration of the switch fabric in multiplexing elements, only "reliable fault management." A passing reference to the inclusion of "other information" in an active alarm state table associated with Chisholm's fault management systems and methods would not have motivated one skilled in the art at the time the claimed inventions were made to modify Barker or to combine Barker's teachings with those of Chisholm when faced with the problems to be solved by the Applicants.

Finally, none of the obviousness rejections can stand in view of the error in the Examiner's assertion that "that the combination of the element manager server and network element [in Chisholm] compose the fabric structure" recited in Applicants' claims. There is

simply no basis for this assertion. Applicants' Specification teaches that in typical xDSL

broadband access networks the broadband access network multiplexing element (*e.g.,*

DSLAM) is the location where the twisted wire pairs from the various customer premises in a

particular area come together and the various digital (i.e., non-POTS) information streams

emanating from the various customer premises are placed into a single information stream

(i.e., multiplexed) to be transmitted through the rest of the broadband access network. The

individual information streams are later broken out from one another again upon reaching an

exit or other similar point in the broadband access network, such as an interface with an

Internet service provider. *See, e.g.,* Specification at paragraphs [0006], [0007], and [0016].

The way that the various digital information streams emanating from the various customer

premises are joined together in a single stream of information is via a series of logical and/or

physical cross-connects in the multiplexing element's switching fabric. *Id.* Thus, it is clear

that the combination of the element manager server and network element in Chisholm does

not disclose or in any way suggest to one having ordinary skill in the art the "switch fabric"

recited in Applicants' claims. It is also clear that the Element Management System (EMS)

agent 18 in Chisholm (which Applicants presume is the "element manager server" referred to

by the Examiner) is separate and independent from the network elements 14 to which they

are connected by way of communications links, and that the facilitating direct network

element management and control functions performed by Chisholm's EMS agent (Col. 4,

lines 55-59) bear no relationship at all to the functions performed by the logical and/or

physical cross-connects of the broadband access network multiplexing element switch fabric

recited in Applicants' claims (i.e., aggregating individual digital information streams into a

single information stream).

Conclusion

For at least the foregoing reasons all of the rejections of Applicants' claims should be withdrawn, and a Notice of Allowance should be issued at the earliest opportunity.

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